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Prevention and Control of H5 and H7 Low Pathogenicity Avian Influenza in the Live Bird Marketing System

Uniform Standards for a State- Federal-Industry Cooperative Program

Effective August 2012

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Introduction

The H5 and H7 hemagglutinin subtypes of low pathogenicity avian influenza (LPAI) virus have repeatedly been isolated from the live bird marketing system (LBMS) in the United States. Although LPAI virus infections cause little or no clinical illness in poultry, LPAI H5 and H7 subtypes can mutate into high pathogenicity avian influenza (HPAI) subtypes. Such mutations, if they occur today, would seriously harm the U.S. commercial poultry industry.

The U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services (VS) unit is responsible for protecting the health of the nation's poultry flocks and supporting trade. Our trading partners are increasingly wary of importing products from countries with LPAI. Such trade concerns, along with the risk of disease transmission posed by the virus circulating in the LBMS, have increased the need to prevent and control H5 and H7 LPAI in the LBMS.

To protect U.S. poultry from HPAI and prevent interruptions in trade, Federal, State, and industry officials must cooperate to also actively prevent and control LPAI. In addition, other countries have reported cases of human infection with notifiable avian influenza (NAI) viruses. Therefore, human health would also benefit from a program that prevents the development of HPAI infections by controlling LPAI infections.

This LPAI program was originally developed as a cooperative effort by State veterinarians, industry representatives, and other parties associated with poultry and poultry health. VS has approved the LPAI program as a voluntary measure for States. The program is designed to enhance and unify State programs and help States prevent and control LPAI in the LBMS. States will enact the regulations necessary for compliance from their live bird markets, producers, and distributors. (Requirements expressed herein reflect what would be in State regulations, the substance of which is agreed upon by both the State and VS.) VS coordinates and administers the program. APHIS also provides personnel and resources to assist States with implementation and compliance with program requirements.

This publication is intended as a working document that will change as the program develops. The standards discussed here refer only to the LBMS; the National Poultry Improvement Plan (NPIP) addresses AI surveillance for breeders and commercial poultry flocks.

The minimum national standards described in this document do not preclude the adoption of more stringent methods and rules by any geographical or political subdivision of the United States for application within that subdivision. However, regulations dealing with interstate movement must still conform to Federal regulations.

The following goals of the program apply to all participants in the LBMS, including suppliers, producers, dealers, haulers, auction markets, wholesalers, and live bird markets:

1. Diagnose, control, and prevent H5 and H7 LPAI.
2. Help participants improve biosecurity, sanitation, and disease control in their operations.
3. Minimize the effects of LPAI on the U.S. commercial poultry industry.

Part I—Definitions

Antigen capture immunoassay (ACIA) test

A USDA-licensed type A influenza antigen capture immunoassay test to detect influenza A nucleoprotein and for use as an official test to screen for AI. The ACIA must be conducted using test kits approved by USDA and the State and must be conducted in accordance with recommendations of the manufacturer.

Agar gel immunodiffusion (AGID) test

The official test for serological detection of AI in which precipitates are formed by a combination of specific AI antigens and antibodies that diffuses through a gel. A positive reaction indicates exposure to AI virus, but does not indicate a specific subtype. Samples positive by AGID must be further tested and subtyped using the hemagglutination inhibition (HI) test, and the neuraminidase-inhibition (NI) test. A final decision on the status of an AGID-positive flock should be based on further sampling and testing for the presence of virus through real-time, reverse-transcriptase-polymerase chain reaction (rRT-PCR) or virus isolation.

AI

Avian influenza.

Animal health official

A full-time employee of the State animal health agency or of APHIS who has authority from the State veterinarian or the Area Veterinarian in Charge to carry out program activities.

APHIS

The Animal and Plant Health Inspection Service, an agency of the United States Department of Agriculture (USDA).

Approved laboratory

A State, Federal, university, or private laboratory that has been approved by VS to perform one or more types of official tests of AI diagnosis for the program.

Area Veterinarian in Charge (AVIC)

The veterinary official of VS assigned by the Administrator to supervise and perform the official animal health programs of APHIS in the State or States concerned.

Auction market

A business where producers, dealers, wholesalers, distributors, and retailers meet to purchase, trade, or sell live birds.

Botanica

An establishment that sells supplies and some types of poultry or livestock (or both) for Santeria religious practices. Poultry or livestock sold at these establishments leave alive to meet the Santeria needs. In the United States the majority of these types of establishments are located in Florida, New York and New Jersey.

Cleaning and disinfection

One of the steps in response to an AI-positive premises that may help eliminate AI from the premises. This requires thorough removal of organic material and debris, followed by treatment with the proper concentration of an agent effective in inactivation of AI virus.

Clean and sanitary (for inspection purposes)

Free of visible accumulation of manure, feathers, or other organic materials, as determined by an animal health official.

Dealers

Individuals or businesses concerned with the commerce of poultry in the LBMS. A dealer may acquire poultry from multiple flocks and geographic areas for resale. This also may include individuals or businesses engaged solely in the transportation of poultry (hauler) or businesses with a permanent facility (wholesaler). If any of the defining characteristics of a hauler or wholesaler meet the general definition of a dealer, then the individual or business will be classified as a dealer. “Dealing” indicates the movement of live poultry between the production system and live bird markets.

Distribution system

Businesses (such as wholesalers, dealers, distributors, haulers, and auction markets) engaged consistently or intermittently in the transportation or sale of poultry to live bird markets. These are the links between production flocks and live bird markets.

Distributor

Any of the businesses or individuals working within the distribution system serving the live bird markets. Also see dealer.

Established flock

A group of poultry living on a premises until movement directly to a live bird market; or poultry of the same species held together on one premises for at least 21 consecutive days; or at the discretion of the animal health official, any group of poultry on one premises that has been segregated from other poultry for at least 21 consecutive days. To qualify as an established flock, the group must have been together without any untested [avian influenza (AI)] additions or exposure to untested (AI) poultry for a minimum of 21 days before testing for AI. Additionally, there can be no additions of other poultry or exposures to other poultry between the sample collection date and the date that the poultry leave the farm. The poultry from the established flock must move directly to the live bird market. They cannot move to another premises before going to the live bird market except to move through a dealer facility if necessary before being transported to a live bird market.

Flock

All poultry in the same environment, under the same biosecurity and management programs, on the same premises. Types of flocks described in these Standards include established flocks, monitored flocks, and tested flocks. Monitored and tested flocks are further discussed in Part III C of these Standards.

H5, H7 LPAI

Low pathogenicity H5 and H7 subtypes of AI virus.

Hauler

A business or individual engaged in transporting live poultry.

High pathogenicity avian influenza (HPAI) virus

Any influenza virus that kills at least 75 percent of 4- to 6-week-old susceptible chickens within 10 days following intravenous inoculation of 0.2 ml of a 1:10 dilution of infectious allantoic fluid; or any H5 or H7 influenza virus that has an amino acid sequence at the hemagglutination cleavage site compatible with HPAI; or any influenza virus that is not an H5 or H7 subtype and that kills one to five chickens and grows in cell culture in the absence of trypsin. This is consistent with the World Organization for Animal Health (OIE) definition and the definition included in title 9, *Code of Federal Regulations* (9 CFR) 53.1.

Licensing, registration

A requirement to conduct business in the LBMS. This consists of the licensing or registration of facilities by the State, allowing for oversight of such facilities as recommended in these standards. States may elect licensing or registration procedures that best fit their statutes.

Live bird market

Any facility (including botanica, poultry store, or custom slaughter) that sells live poultry for onsite slaughter or for offsite ritual use.

Live bird marketing system (LBMS)

The LBMS includes live bird markets and their production and distribution systems.

Low pathogenicity avian influenza H5 and H7 program

The State-Federal-industry cooperative program for the prevention and control of H5 and H7 LPAI. This is a voluntary program for States, but participating States must have regulations to enforce program standards and requirements.

Low pathogenicity avian influenza (LPAI) virus

Any AI virus that does not meet the criteria for high pathogenicity avian influenza (HPAI) virus.

Low pathogenicity avian influenza (LPAI) virus infection (infected)

- (1) Poultry will be considered to be infected with H5/H7 LPAI virus if:
 - a. H5/H7 LPAI virus has been isolated and identified as such from poultry; or
 - b. Viral antigen or viral RNA specific to the H5 or H7 subtype of AI virus has been detected in poultry; or
 - c. Antibodies to the H5 or H7 subtype of the AI virus that are not a consequence of vaccination have been detected in poultry. If vaccine is used, methods should be used to distinguish vaccinated birds from birds that are both vaccinated and infected. In the case of isolated serological positive results, H5/H7 LPAI infection may be ruled out on the basis of a thorough epidemiological investigation that does not demonstrate further evidence of H5/H7 LPAI infection, as determined by APHIS.
- (2) The official designation of a flock as infected with H5 or H7 will be made by the State veterinarian in consultation with the Area Veterinarian in Charge, following confirmation by the National Veterinary Services Laboratory (NVSL).

Memorandum of Understanding (MOU)

An agreement enacted between an official State animal health agency and VS.

National Veterinary Services Laboratories (NVSL)

The National Veterinary Services Laboratories is the national reference laboratory for AI.

Positive flock

A flock that has been confirmed to be positive for AI virus, subtype H5 or H7, by an official test performed at an approved laboratory. Specimens that are found to be positive by the AGID test must be tested by the hemagglutination-inhibition (HI) test and neuraminidase-inhibition (NI) test at the NVSL. The final determination of the status of an AI seropositive flock will be based on epidemiological data and additional serological and virological (rRT-PCR and virus isolation) testing.

Positive sample/specimen

A diagnostic specimen that is: (1) positive for AI virus, subtype H5 or H7, by rRT-PCR, by gene sequencing, or by virus isolation; or (2) positive for specific antibodies to AI virus, subtype H5 or H7, but not as a consequence of vaccination. Specimens positive for AI subtypes H5 or H7 at an NVSL-approved laboratory must be confirmed by the NVSL.

Poultry (OIE definition)

All domesticated birds, including backyard poultry, used for the production of meat or eggs for consumption, for the production of other commercial products, for re-stocking supplies of game, or for breeding these categories of birds, as well as fighting cocks used for any purpose.

Poultry store

A retail store with a permanent facility that purchases birds from sources such as producers, distributors, or auction markets and then sells live poultry to its customers mainly intended for home slaughter. The business sells poultry species only and does not sell feed or pets. The operation is consistent with the live bird market definition of operational characteristics, except that it is a non-slaughter facility. A poultry store sells retail only and does not trade birds or resell to auctions.

Poultry waste

This definition includes dead birds, feathers, offal, and poultry litter.

Premises identification number

A nationally unique number assigned by a State, Tribal, or Federal animal health authority to a premises such as a live bird market, distributor, or supply flock, that is, in the judgment of the State, Tribal, or Federal animal health authority a geographically distinct location from other premises.

Production or supplier flock

The production facility or farm that is the origin of poultry offered for sale in a live bird market.

Program

See “Low Pathogenicity Avian Influenza H5 and H7 Program.”

Real-time reverse-transcriptase polymerase chain reaction (rRT-PCR)

An official test to detect the RNA of H5 or H7 subtypes of AI virus.

Registration

See Licensing.

State, participating

This definition applies to any of the 50 States (plus the District of Columbia and Puerto Rico) that are participating in the LPAI program. This term applies each time the word “State” is used in this document.

Test certificate

A report that contains, at a minimum, negative AI test results obtained from official tests conducted at an approved laboratory, and identifying information about the tested poultry and the source premises.

USDA

United States Department of Agriculture.

Veterinary Services (VS)

Veterinary Services is the division of APHIS charged with animal health activities within the United States.

Wholesaler

A business with a permanent facility that buys birds from producers, distributors, or auction markets, and then trades or resells them.

Part II—Administration of the Program

A. State Participation

The LPAI program recognizes three basic components of the LBMS: Production units, distribution units, and live bird markets. A State can participate in the program when all or some components of the LBMS operating within the State are required to be registered or licensed, and program participation is required for State registration or licensure. State participation is defined in each State's Memorandum of Understanding (MOU) with VS.

LBMS participants that do not comply with these Program Standards are subject to administrative actions as determined by the State's regulatory authority. States are responsible for enforcement of the Program Standards.

B. Federal Participation

The LPAI program will be coordinated by the VS Surveillance, Preparedness, and Response team. Under the terms and conditions of the program, VS will provide personnel and resources to help States implement the program and comply with program requirements. Monitoring, surveillance, and educational activities will be supported as defined in the State's MOU.

The program will provide Federal indemnification for participating States and facilities at all levels of the LBMS in these States if they are in good standing. Indemnification will require a positive diagnosis of H5 or H7 LPAI. The amount of indemnification will depend on Federal regulations and Federal resources. For established flocks and distribution units, indemnity for destroyed birds will be based on the appraised value of the birds at the time of their disposal. For birds in the live bird market, indemnity will be paid for birds remaining in the market after a designated period provided to sell down, if appropriate, at the discretion of the State.

Part III—Program Elements and Procedures

A. Live Bird Markets

1. Licensing, Registration, and Education

- a. A live bird market must be licensed or registered by the State within which it is located and must comply with the requirements of the program. The State will provide a unique premises identification number. Live bird markets must also comply with all other applicable animal and public health laws and regulations. These include State environmental laws, city or county sanitation requirements, public health regulations, and the Federal Poultry Products Inspection Act. Information required for a live bird market to become licensed or registered includes:
 - (1) Business name, address, and telephone number.
 - (2) Owner's name, address, and telephone number.
 - (3) Hours of operation.
 - (4) Global Positioning System location.
 - (5) Other live bird market facilities under the same ownership, including dealerships, bird transportation businesses, and commercial poultry operations.
 - (6) A list of all avian and non-avian species marketed.
- b. As a program participant, the live bird market must allow access to the facility and the birds in the facility for inspection and testing and for examination of market records of bird receipts and bird sales.
- c. Live bird market owners or managers are required to attend the biosecurity and State regulation training provided by or approved by the State or USDA.
- d. All personnel who work in the market must be trained in biosecurity procedures as arranged by the owner or manager. A record of employee training will be maintained on file on the premises for 12 months and must be presented on request to any animal health official inspectors.

2. Bird Testing and Recordkeeping

- a. Markets are responsible for maintaining records indicating bird description, source information, and any available identification. The birds may not enter the market if these records are not available.
- b. Records for avian species received by the live bird market must include the date of entry; the source name, address, and telephone number; color, species, and type of birds in the lot; and the date of sale. A copy of the test certificate or equivalent documentation of the established flock must be filed as part of the records, if required by animal health officials.
- c. All records must be maintained for a minimum of 12 months from date of entry into the market.

- d. Any indication noted by a live bird market that paperwork has been altered or that it misrepresents the sources or test status of birds coming into the market must be reported to an animal health official.

3. Market Sanitation and Biosecurity

- a. A biosecurity protocol must be developed by the live bird market and approved by an animal health official.
- b. Live bird market environments and crates must be kept clean and sanitary at all times, as defined by the biosecurity protocol.
- c. Employees must follow biosecurity protocols.
- d. Once delivered to a market, birds must be killed and processed before leaving the facility, unless otherwise provided for in the biosecurity protocol.
- e. Live bird markets must undergo regular, periodic closures with depopulation and complete sanitation, cleaning and disinfection, and downtime. The closures should occur at least quarterly with a minimum of 24 hours of downtime. The market must be inspected and approved by an animal health official before being allowed to reopen.
- f. Poultry waste must be contained in a manner approved by an animal health official to prevent disease transmission while it is awaiting disposal by a method acceptable to the jurisdiction where the market is located.

4. Market Surveillance

- a. Live bird markets may be tested for AI virus by the State at any time, but they should be tested at least quarterly.
- b. Specimens tested may include swab samples collected from live birds or the environment within the live bird market; swabs collected on arrival from birds, conveyances, and crates; and swabs or tissues from sick and dead birds detected in the live bird market.
- c. Specimens of choice and the types of tests to be run for each are covered in Part IV of this document.

5. Market Positives

- a. Live bird markets that test positive on rRT-PCR or virus isolation at the NVSL must be closed by the State. Such markets will be required to depopulate and perform cleaning and disinfection, but may first be allowed up to 5 calendar days to sell down bird inventory, if this is deemed appropriate by the animal health official. No additional birds should be allowed to enter the market after notification of positive status and throughout the sell-down period.
- b. Before the live bird market can reopen for business, it must pass inspection by an animal health official. Environmental samples may be taken for testing at this time, but the market can reopen while it awaits environmental test results. If results are positive, the market must close (with up to 5 days to permit sell-down, if appropriate) and will again clean and disinfect within the next 24 hours,

followed by inspection and retesting.

- c. All samples that test positive for H5 or H7 at an approved laboratory will be submitted to the NVSL for confirmation and further characterization of the virus.
- d. A live bird market that has a positive environmental test on quarterly inspection must undergo monthly testing. If results are positive, the market must close (with up to 5 days to permit sell-down, if appropriate) and will again clean and disinfect within the next 24 hours, followed by inspection and retesting.
- e. After three consecutive negative tests, the live bird market can return to a schedule of quarterly testing and routine quarterly closures.
- f. When birds are found to be positive in the live bird market or on delivery to the market, an epidemiological investigation will be initiated.

B. Poultry Distributors

1. Licensing, Registration, and Education

- a. Poultry distributors (dealers, haulers, auction markets, and wholesalers) must be licensed or registered in each State in which they conduct business. This includes the States from which birds are acquired, as well as the States that have live bird markets to which the birds are sold or delivered. The distributor's premises will get a premises identification number in the State in which it is located. This number may be used when the distributor registers in other States. Minimum information required to register for a distributor license includes:
 - (1) Business name, address, and telephone number.
 - (2) Owner's name, address, and telephone number.
 - (3) Hours of operation.
 - (4) Global Positioning System location of premises.
 - (5) Other bird and animal premises involved with production, sales facilities, dealerships, or hauler operations under the same ownership.
 - (6) A list of all avian and non-avian species distributed.
- b. To register to transport birds within the LBMS, distributors must agree to allow animal health officials to see records on request and to permit official inspections and testing of premises and equipment as required.
- c. A distributor should not be licensed or registered until his or her facility, record system, and biosecurity protocol has been inspected and approved by an animal health official.
- d. All personnel who work for the company must be trained in biosecurity by animal health officials or by a trained company representative. The company must maintain and make available for inspection certification of employee training.

2. Bird Testing and Recordkeeping

- a. Distributors must provide documentation of negative test results from the established flock with each delivery of birds as required by recipient State regulations.
- b. Distributors must maintain records for bird pickups and delivery for 12 months that include: Copies of test certificates (if required by recipient State regulations); dates and locations of pickup and delivery; and the number, species, and types of poultry in the delivery. In addition, distributors must keep records of premises and conveyance cleaning and disinfection.
- c. Any indication noted by a distributor that paperwork has been altered or that it misrepresents the sources or test status of birds coming into the live bird market must be reported to an animal health official.

3. Distributor Sanitation and Biosecurity

- a. Distributor vehicles, bird-holding devices, and any premises where birds may be held must be clean and sanitary at all times.
- b. Documented biosecurity protocols, developed by the distributor and approved by the State, must be in place.
- c. Distributors must use State-approved all-season crate and conveyance washing equipment and present cleaning and disinfection documentation when obtaining birds from producers and from other distributors.
- d. Once emptied of poultry, all conveyances, coops, cages, vehicles, and other equipment must undergo cleaning and disinfection before visiting a poultry premises.
- e. Distributors may not transport live birds or other live animals from live bird markets.

4. Distributor Surveillance

- a. Distributors should be randomly inspected by animal health officials of the State in which they are located. These random inspections should occur at least quarterly to ensure that conveyances, crates, and facilities are clean and sanitary and records are being kept according to program requirements.
- b. Distributors should be tested at least quarterly for LPAI virus. Testing may include facility environment, conveyances, crates, and birds, if present.
- c. Specimens of choice and the types of tests to be run for each are covered in Part IV of this document.

5. AI-Positive Distribution Units

- a. Distributors' facilities that test positive by rRT-PCR or virus isolation at the NVSL will undergo depopulation of any birds on the premises, followed by cleaning and disinfection.
- b. Environmental samples may be taken for testing if indicated.
- c. Any specimen testing positive at an approved laboratory will be submitted to the

NVSL for virus isolation and further characterization of the virus.

- d. A distributor that fails biosecurity inspections or is positive on quarterly testing will have to undergo monthly inspections and testing until there have been 3 consecutive months of negative testing, at which time quarterly testing will resume.
- e. When birds are found to be positive, an epidemiological investigation will be initiated.

C. Production Units

1. Licensing, Registration, and Education

- a. States will give production units unique premises identification numbers to be used for all business pertaining to the live bird markets and for interstate movement. Production units are required to keep records of their operations on file on the premises for 12 months. The records must be presented on request to animal health official inspectors. Information required for the production unit records includes:
 - (1) Business name, address, and telephone number.
 - (2) Owner's name, address, and telephone number.
 - (3) Global Positioning System location.
 - (4) Other bird and animal premises involved with production, sales facilities, dealerships, or hauler operations under the same ownership.
 - (5) A list of all avian and non-avian species produced.
- b. To participate in the program, production units must allow animal health officials to review all records and inspect equipment when requested by the program authority. Testing may be conducted as indicated by animal health officials.
- c. Flock and farm managers are encouraged to attend biosecurity training.

2. Bird Testing and Recordkeeping

- a. All birds provided to a distributor or directly to the live bird market must originate from a flock that has tested negative for AI before movement and must be traceable to a premises of origin. AI testing must be performed using approved LBMS tests (as specified in part IV of this document) at approved laboratories. The categories of production units and the testing requirements for each category are as follows:
 - (1) AI Monitored Flock: To be certified as an AI Monitored Flock, a flock must meet the following requirements:
 - a) The group must have been together without any additions from non-tested or non-monitored flocks for a minimum of 21 days before testing and no birds may be added between the testing date and the date they leave the farm.
 - b) Samples from 30 birds, 3 weeks of age and older from all pens and

houses on the premises, shall be collected between 21 and 30 days after the previous collection.

- c) The 30 birds selected for testing shall be selected randomly and shall be representative of the flock (birds of testing age tested from all pens and houses on the premises).
 - d) The first test should be conducted within 30 days of placement except for the following:
 - i. For serology, blood collection from silkies and other small breeds of chickens may be delayed until the birds are 6 to 8 weeks of age.
 - ii. For serology, blood collection from guineas, chukars, and quail may be delayed until the birds are 5 to 6 weeks of age.
 - iii. Eggs may be substituted for blood samples from quail and chukars after they start laying.
 - e) A flock must test negative for AI for 3 consecutive months before it is considered a monitored flock in good standing. When new birds are added to the premises, birds coming from a source of equal or higher status (for example, another monitored flock) assume the monitored flock status of the previous flock and must be tested once together as a monitored flock before moving into the LBMS. Chicks coming directly from an NPIP AI Clean hatchery must be tested once as part of a monitored flock before moving into the LBMS. If the added birds are from other sources, not equal to or of higher status, the flock must be tested for 3 months consecutively (with negative results) to be considered a monitored flock in good standing.
 - f) To re-qualify for monitored flock status after any breaks in the required monthly testing, 30 birds must be tested by an NVSL-approved test protocol within 10 days before the date of movement into the LBMS.
- (2) Tested flock: A flock that has been established for a minimum of 21 days with no contact with other birds and no birds added to the flock during this time, and from which 30 birds are randomly sampled and tested negative for AI according to the specific requirements listed below, within 10 days before the date of movement into the LBMS. No poultry may be added to or have contact with this flock after testing and before movement. If the flock contains fewer than 30 birds, all birds within the flock must be tested.
- a) Samples from 30 birds, 3 weeks of age and older, from all pens and houses on the premises shall be collected. Eggs may be substituted for blood samples from quail and chukars after they start laying.
 - b) The 30 birds for testing shall be selected randomly and shall be representative of the flock.
 - c) Flock test records, as well as records of bird transfers, must be maintained and made readily available for inspection for 12 months by the bird owner, manager, or program participant as approved by the State

animal health agency.

- d) Birds loaded for transport to a distributor must be identified by premises of origin and must contain an appropriate date of movement or lot number that will distinguish this shipment from others. This information must be recorded on the test certificate or other paperwork if a test certificate is not required for movement to the distributor.
- e) Seropositive flocks must be quarantined and tested using an approved virus-detection procedure at the NVSL.
- f) Premises that have results confirmed as positive for H5 or H7 LPAI virus must depopulate and undergo cleaning and disinfection.

3. Sanitation and Biosecurity

- a. Production unit facilities, conveyances, bird holding devices, and other equipment must be clean and sanitary at all times.
- b. Producers are encouraged to have biosecurity protocols and follow them.
- c. Producers should have access to equipment for cleaning and disinfection of premises, conveyances, and crates. They must maintain records of downtime and cleaning and disinfection, if applicable.
- d. To prevent the transmission of AI virus between species, premises should not commingle chickens, turkeys, or game birds with ducks or geese.

4. Producer Surveillance

- a. Premises may be subjected to random inspections by animal health officials to ensure that premises, conveyances, and coops are clean and sanitary. Random samples may be collected for AI testing from birds or the environment at the time of inspection.
- b. Records will be reviewed during site inspections.
- c. Positive H5 or H7 LPAI virus isolation or rRT-PCR test results, confirmed at the NVSL, will result in quarantine of the premises. Premises may be depopulated and undergo cleaning and disinfection in accordance with the initial APHIS-approved State response and containment plan.

5. NAI-Positive Facilities

- a. Any specimens testing presumptive positive for NAI virus will be submitted to the NVSL for confirmation, and for virus isolation and characterization. The premises may be quarantined until results are obtained from the NVSL.
- b. Premises confirmed positive for NAI at the NVSL must be quarantined and be inventoried. An epidemiological investigation will occur. The premises may be depopulated and cleaned and disinfected in accordance with the initial APHIS-approved State response and containment plan. A flock plan will be developed.

Part IV—Official Testing of Specimens from the LBMS for the LPAI Program

A. Specimens

Specimens may be collected from live bird markets and distribution and production units by an animal health official or personnel authorized by the animal health official.

B. Official Tests

The official tests for the LPAI program in the LBMS include agar gel immunodiffusion (AGID), antigen capture immunoassay (ACIA), real-time reverse-transcriptase polymerase chain reaction (rRT-PCR), and virus isolation (VI). The LBMS working group determined these to be the official tests in consultation with VS. Approved laboratories must pass annual proficiency tests for rRT-PCR and AGID required by the NVSL for program participation. All specimens that test presumptive positive in approved laboratories will be submitted to the NVSL for confirmation and further characterization.

1. Agar Gel Immunodiffusion (AGID)

- a. This is the official serological procedure for identifying antibodies in serum specimens for all gallinaceous birds within the LBMS.
- b. The AGID test must be conducted in approved laboratories on specimens collected by personnel authorized by the animal health official.
- c. The AGID test is type-specific and will not determine the hemagglutinin (H) or neuraminidase (N) subtype of AI.
- d. Positive AGID results indicate that birds were exposed at least 1 week previously to some unidentified subtype of AI.
- e. AGID-positive specimens must be forwarded to the NVSL for H- and N-subtyping. A final decision on the status of the flock may require further sampling and use of rRT-PCR or virus isolation to determine if AI virus is present.

2. Antigen Capture Immunoassay Tests (ACIA)

- a. This is an official test to screen for the detection of Type A avian influenza antigen in swab specimens from birds exhibiting clinical signs of disease (sick birds) or dead birds within the LBMS.
- b. The ACIA test must be conducted using test kits approved by USDA and the State and must be conducted in accordance with manufacturer recommendations.
- c. The test will not determine whether birds have been exposed specifically to H5 or H7 subtypes of AI.
- d. ACIA-positive specimens must be forwarded to an approved laboratory for rRT-PCR testing.
 - i. A final decision on the status of the flock will require further sampling and use of rRT-PCR or virus isolation at the NVSL to determine if AI virus is present.

3. Real-Time Reverse-Transcriptase Polymerase Chain Reaction (rRT-PCR)

- a. The matrix (M), H5 and H7 subtyping assays detect viral RNA. The M assay should be used to screen all specimens; specimens testing positive by the M assay may be tested by the H5 and H7 subtyping assays to determine if the H5 or H7 gene is present. The H5 and H7 are H5 and H7 subtype specific, respectively, and detect both HPAI as well as LPAI.
- b. This test is highly sensitive.
- c. The specimen of choice for the rRT-PCR is the tracheal swab for gallinaceous birds (chickens, turkeys, guinea fowl, etc.) or the cloacal swab for domestic ducks. For smaller birds, small Dacron swabs may be used to obtain a tracheal-origin specimen or oropharyngeal swabbing may be performed. (Use of the calcium alginate swab is contraindicated because it interferes with test results).
- d. The rRT-PCR procedure has been standardized for gallinaceous species and domestic ducks. This test should not be used for other groups of birds or environmental samples unless an NVSL-approved protocol for such testing is released.

4. Virus Isolation (VI)

This test is intended to determine if viable AI virus is present in a specimen through exposure of embryonated eggs. Specimens for virus isolation will be tested by State-approved laboratories or by the NVSL. Virus isolation can be used on tracheal/oropharyngeal or cloacal swab specimens from gallinaceous poultry, cloacal swab specimens from waterfowl or other non-gallinaceous bird species, and environmental specimens. Confirmation and characterization will be made by the NVSL.

Part V – General Criteria for H5 and H7 LPAI Indemnification in the LBMS

A. Requirement for Indemnification

Any positive H5 or H7 specimen confirmed by the NVSL.

1. Even when the requirements are met, indemnity is not guaranteed. It should be discussed by the Federal and State officials as an option.
2. Presumptive positive H5 or H7 results from an approved laboratory should initiate quarantine and possible sell down of the affected premises, at the State's discretion. However, eligibility for indemnity requires confirmation by the NVSL unless otherwise approved by VS.

B. Flocks or Premises Eligible for Indemnity Funds

LBMS participants (markets, distributors, and producers) are eligible. Once the LPAI program is established in a State, participants must comply with these Standards and all related State regulations.

C. Fair Market Value at Distributor/Wholesale and Retail Market Level

1. This is the purchase price of the bird at wholesale if the bird is currently located at the retail market, or the purchase price of the bird at production level if the bird is currently located at a wholesaler or distributor.
2. In addition to an inventory verified by animal health officials at the time of depopulation, valid documentation of purchase is required.
3. Alternatively – without receipts – authorized animal health officials will conduct a survey of relevant wholesalers to determine the value.

D. Fair Market Value at Production Level and Breeder Birds

1. Appraisal value of production (meat-type) birds is the expected (or past) price the owner has received from a wholesaler (retailer, if no wholesaler) adjusted for actual age (weight) of the bird at time of destruction.
2. Appraisal value of chicken meat-type breeder birds, at a minimum, is the same as commercial parent broiler-breeder birds. Higher appraisal values for chicken meat-type breeder birds may be obtained if the owner can provide the necessary production and financial records required for determining value using an income appraisal approach. Minimum appraisal value of other types of breeder birds used in the LBMS shall be the price the producer receives for his or her adult birds based on receipts or other evidence of prices received. Higher appraisal values for other types of breeder birds may be obtained if the owner can provide the necessary production and financial records required for determining value using an income appraisal approach.
3. Appraisal value for all other birds will be determined by either APHIS-developed valuation lists or by official animal health official appraising officials.

E. Decision to Depopulate

1. The decision to depopulate is made by the State in consultation with industry, stakeholders, and VS. VS must concur with the State approach to controlling H5/H7 LPAI in each incident before distributing indemnity funds.
2. Depopulation is not the only possible response to H5/H7 LPAI. Quarantine or controlled marketing or quarantine with vaccination (for production flocks only) may also be appropriate.

F. Indemnity Funds (per 9 CFR part 56)

Indemnity funds may be used for 100 percent of the appraised value of depopulated birds and costs of depopulation, disposal, cleaning and disinfection.